EDITORIAL

Translational research: Leading to constant transition for deeper medical insights

History has witnessed great periods of transition in medical sciences. These episodic periods of revolution not only changed the thinking of the rulers, scientists, and doctors, but of whole societies of the glorious civilizations of the past. This led to immense developments during such periods of history in all fields of science and the medical science in particular. Renaissance in Europe is one such phase that contributed enormously to the advances in the medical world.[1]

The 21st century is not witnessing “episodic” phases of revolution in medical science. Instead, present-day medicine is in a “constant” phase of revolution and evolution. One of the major reasons for this exciting scenario of constant flux leading to frequent spurts of advances in the research frontiers is the acceptance of what is termed as “translational research” worldwide. Translational research is another term for translative research and translational science.

Translational research is a mode of feedback system between and across the whole spectrum of doctors in all specialties and basic science researchers. It is a powerful process that drives the clinical research engine. According to Wikipedia, it is “scientific research that facilitates the translation of findings from basic science to practical applications that enhance human health and well-being.” Another apt definition is “it is a process, which leads from evidence based medicine to sustainable solutions for public health problems.”[2] In the arena of health sciences, translational research helps to translate the findings from the research in basic medical sciences ("the bench") efficiently into medical practice ("bedside") without any waste of time. It is a major link between laboratory research and human trials. This leads to positive health outcomes to society. Applying the knowledge gained by researchers in basic medical sciences is a huge obstacle in health sciences, partially due to the boundaries and seemingly insurmountable walls between the different departments of health sciences. Translational research is a two-way street from “bench to bedside” and “bedside to bench.” The “bedside to bench” part of the translational research is necessary for the practitioners to give feedback to basic researchers about the quality of the medicine, its drawbacks if any and for assessment of impact of the discovery or invention. Hence, translational research is seen as a key component to finding practical applications.[3]

Drug discovery is one field that has experienced growth in leaps and bounds due to translational research. In the latter part of last century, the time duration between the start of research for producing a drug for a particular disease and the availability of drug for patients to use would be not less than a decade. By the time the medicine was available; many patients would have succumbed to the effects of the malady. In contrast, the research for vaccine against Ebola infection is already nearing its end and human trials have started, though the research for the same started only a year back. There are but very few barriers in translational research.[4]

It is very rare today to observe an impact making research process to be performed by a group of individuals in the same specialty. The impact of any invention or discovery is more when individuals from different fields related to the area of research come together. Hence, collaborative research is the “in-thing.”[5]

References


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